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ABSTRACT

This paper reports the findings of a study determining the feasibility of establishing a research training program for women and minorities. Focused on are the career characteristics of women and minority junior faculty at four year institutions in the mid-Atlantic region, their research training, experience, and need for training as well as critical characteristics of internship programs. A review of literature on internships reveals the underrepresentation of women and minorities in the field of educational research and the competitiveness of the field in which junior faculty hope to advance. It also points out that the scarcity of role models for women in education continues to enforce sex stereotypes. Data from a survey of internship programs provide evidence on the need for training and information about key components to be included in a research training program. A proposed research training model is outlined. (Author/EB)

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ADVANCING WOMEN AND MINORITIES IN EDUCATIONAL RESEARCH: THE NEED FOR TRAINING AND NETWORKING

A Paper Presented at the
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ADVANCING WOMEN AND MINORITIES IN EDUCATIONAL RESEARCH:
THE NEED FOR TRAINING AND NETWORKING

Introduction

Women and minority junior faculty face serious problems within the field of higher education. Women and minorities are underrepresented in tenured faculty, devote a higher proportion of their time to teaching than their male counterparts, lack advanced research training, and suffer from a series of cultural and professional barriers to advancement. Mid-career internships, when combined with research skill training and professional networking, are seen as one potentially effective strategy to correct this situation (Blake & Williams 1977, Jackson & Pitterle 1978).

Due to a number of factors, there is significantly lower participation in educational research by women and minorities. Common barriers that discourage women and impede their professional progress in research, regardless of their ethnic/racial background are: inappropriate recruitment and counseling, less research training, family and cultural pressures undermining motivation, and predominance of male faculty that excludes women from the mentor relationship and the "old boy" network. Minority women face additional barriers: culture and family tradition, poor quality secondary education, and language (Stivers & Leckie 1977). Among the changes suggested to improve women's postdoctoral status: investing more time in research; moving to institutions where salaries are higher and moving more frequently; and requesting administrative posts, provided research and writing can be maintained to ensure full professorships (Kreps 1976).

Women and minority junior faculty face an increasingly competitive market with projected declining enrollments, decreasing faculty replacement rates, and the recent increase in the mandatory retirement age to 70. Both the National Center for Educational Statistics (1978) and the National Science Foundation report a decrease in research funds. While research performers in other sectors and in some disciplines realized an absolute increase in federal funds, the increase generally was not commensurate with the rate of inflation.

For the many reasons cited, it becomes evident that increased efforts should be launched to provide women and minorities with additional expertise and access to research networks that will give them a competitive edge in obtaining tenured research positions, both inside and outside higher education.

To increase efforts and design an effective strategy such as an internship program, women and minority junior faculty, senior social science and educational researchers, administrators of internship programs, caucus representatives, and department chairpersons were surveyed. A total of 458 women and minority junior faculty members responded to the Junior Faculty Questionnaire (JFQ), of whom 72.3% indicated an interest in participating in the proposed internship.

The objectives of the study were to identify these junior faculty, to determine and assess their research training needs and interests, to involve senior researchers in working with the program, and to develop a training model that would help to increase the number of qualified researchers able to advance.

HERS Mid-Atlantic's program model, designed from survey results and a working conference of senior researchers, consists of a one-year internship taking place in diverse research settings, with mentors committed to the professional development of their interns. Emphasis is placed on professional and peer networking, on-site training, special research seminars, collaboration with prominent mentors on the

production of a publishable research paper, and built-in procedures for on-going and final evaluation.

The internship is designed to encourage the pursuit of fresh educational research related to the special concerns of minorities and women and to create, with the help of committed mentors, a new network of researchers who can contribute to strengthening the quality, relevance and credibility of educational research.

Whereas the need for an internship model has been documented, this strategy is an expensive approach for eliminating the problem. An adaptation of the proposed model may prove to be a more expedient and cost-effective technique in some cases.

This paper reports the findings of a study determining the feasibility of establishing a research training program. Discussion will focus on the career characteristics of junior faculty (assistant professors, lecturers and instructors) at four-year institutions in the Mid-Atlantic region (Delaware, Dictrict of Columbia, Maryland, New Jersey, New York and Pennsylvania) and their research training, experience and need for training. The summary of the internship survey provides both evidence on the need for mid-level training and information about key components to include in the proposed model. Mid-level or mid-career, as used in this study, refers to the four-year period prior to tenure.

The findings of this study, as well as the internship model, will be helpful to administrators, researchers and training personnel. The intervention strategy outlined here, though targeted initially for the Mid-Atlantic region, can easily be adapted to a variety of other audiences.

Review

Status of Minorities and Women

The review of the literature on internships, the status and problems of faculty and researchers, projected enrollment, and demand for instructional staff has revealed the need for: 1) establishing mid-career internships for women and minorities, 2) conducting research studies on women and minorities and their special concerns, and 3) undertaking a comprehensive study of internship programs.

While research, development and dissemination efforts in education have grown tremendously in the past two decades, the underrepresentation of women and ethnic/racial minorities is obvious: 1) less than 3% of minorities between the ages of 20 and 24 have entered the field of educational research, 2) less than 1% of the research published in education is generated by minorities, and 3) during NIE's first two years, 1971-73, less than 1% of its funds were distributed to women and minorities (Blake & Williams 1977). According to an American Educational Research Association (AERA) survey, minorities represent about 7% of their total membership (Lipman-Blumen et al. 1975).

A strong relationship has been found between holding a research assistantship and accepting a research position. Fewer minority persons with doctoral degrees in education accept postdoctoral positions in research than Caucasians.

Burciaga, Chiang, Medicine, Pollard (Stivers & Leckie 1977) offer some solutions to the identified problems and barriers minority women face in advancement. They stress the need for support of research on special concerns and alternate methodologies, for establishment of peer networks, and for placing minorities in positions of authority to serve as mentors and role models. Specialized training, career counseling, and placing minority women on significant committees and boards of professional organizations are recommended as well.

Over the past 40 years there has been a decline in the percentage of female fulltime instructional faculty in institutions of higher education. In 1971 this proportion had dropped to 19.9% (Kilson 1976). In 1976, 24.2% of faculty were women, most of whom were instructors and assistant professors (Vetter & Babco 1976). The proportion of tenured women dropped from 44% in 1971-72 to 27% in 1974-75, compared to only a slight decline in tenured men--from 59% to 57% (Kilson 1976). Even so, recent data indicate that the percentage of doctorates earned by women has increased, from a range of 10-13% between 1939 and 1970, rising dramatically to 23% during 1975-76.

Tidball (1976) indicates a male-research-prestige triumvirate dominates and sets the tone in the academic world. Men at research-oriented institutions rate their success higher than men at teaching-oriented institutions--this according to a survey by the American Council on Education (ACE). The same survey also shows that both women and men are more supportive of students of their own sex. Since 98% of enrolled women attend male-dominated research institutions, it follows that these women are unlikely to profit from the same close interaction with mentors available to male students.

In 1975 AERA conducted a study of its female membership to determine whether or not women's participation differed from men's (Lipman-Blumen et al. 1975). It was found that 36.3% of the women listed teaching as their primary responsibility, 11.9% listed research, and 5.1% indicated management of R&D as their prime responsibility. About the same percent of male members was involved in research, but males were more likely to be involved in R&D management and administration. The AERA study showed only slight differences in productivity between men and women.

In general, the building of visibility for and the integrating of women and minorities in the educational research community is one recommendation suggested by a large number of investigators concerned with the advancement of minorities and women. The correlation between the number of women faculty and the number of women students who become career achievers has been strongly established (Niedermeyer & Kramer 1974). Yet the scarcity of role models for women in education continues to reinforce stereotypes (Schlossberg 1974). Women in general need to develop mentor relationships with older researchers for the sake of "professional socialization" (Ekstrom 1977). These relationships will help rising young women researchers to tie into the mentor system and "old boy" network from which they would otherwise more likely be excluded (Stivers & Leckie 1977).

Internships

While internships in educational research constitute one familiar strategy for including new constituencies in the growth of R&D, no comprehensive review or evaluation of internship programs was found in the literature. Reviews indicate mid-career internships have proven to be an excellent investment when attention is given to: 1) careful selection and matching of mentors, 2) ongoing communication between sponsor and agency, 3) regular meetings with interns, 4) required reporting, and 5) incentives for both intern and mentor (Blake & Williams 1977).

Other reports have stressed the importance of intern involvement in planning and project development, skills seminars in research design and statistics (Hofstetter 1967, Norton 1966, Steicklein 1967); careful intern selection (Norton 1966); sensitivity to minority perspectives; emphasis on support systems; networking; and concern for attitudes, values and practices (McAdoo 1974, South West Laboratory 1970).

Kanter and Wheatley (1978), in an evaluation of five training programs funded by the Carnegie Corporation, indicate that carefully selected senior women benefit from the prestige of being connected with prestigious individuals. Both formal and informal support systems are needed by persons to advance. Opportunities on the job for developing skills, gaining visibility, and demonstrating creativity and problem-solving ability are critical, as is access to information, senior networks and senior mentorships. Among Kanter and Wheatley's recommendations are specific skills training, network formation within geographic areas (such as the HERS Mid-Atlantic projects and the ACE National Identification projects provide), and production of materials that may be used at other sites within defined areas. While women's networks are important, women must also have access to those persons (primarily still men) in decision-making positions.

General Procedures

Various techniques were employed in the study including four mail surveys and one telephone survey to internship programs, a working conference of senior social science and educational researchers and administrators, pre- and post-planning evaluation meetings, and final dissemination of results.

The sample included women and minority junior faculty (assistant professors, lecturers, instructors) (N=458) who are members of departments of education and related social sciences in the four-year colleges of the Mid-Atlantic region. A survey of existing internships and a Senior Researchers' Working Conference provided data for the design of a model internship program.

Junior faculty were identified with the assistance of department chairpersons, senior researchers, minority and women's caucus representatives, State Education officials and interested college officers. In addition, a commercial label list was purchased from which a random sample was drawn. A multiple choice, open-ended, self-administered Junior Faculty Questionnaire (JFQ) was designed and sent to all appropriate persons. The JFQ asked respondents to provide general information on their personal background, on the home institution, academic field, training, experience and research activity, and

research they were conducting on women's and minority issues. They were also asked to indicate their interest in participating in a possible internship training program, any constraints they might have in applying, and suggestions for components of such a training program.

In addition to assisting in the identification process, chairpersons and caucus representatives were asked through the mail survey to recommend senior researchers who might be interested in working with interns and to mention existing or previously existing internship programs and to offer their ideas regarding research training needs of potential interns.

Frequency distributions, expressed in percentages, were computed on all items. Pearson correlation coefficients were employed to investigate the relationship among training, experience and desired training. The analysis assisted both in depicting training patterns (consistent and inconsistent relationships) and suggesting reasons for these results as well.

Results

The results reported in this paper will focus on the career characteristics of junior faculty and their research training, experience and need for training as well as critical characteristics of internship programs. The Internship Surveys and the Senior Researchers' Working Conference provide significant data used in designing the proposed research training model, which also will be outlined in this paper.

JFQ Survey

Respondents to the JFQ were overwhelmingly female and primarily in their 30s, though a sizable group was younger (29.7%). Minority respondents represented 25.8% of total responses, with the following groups included: Blacks (16.8%), Native Americans (3.1%), Asians (1.1%), Hispanics (1.7%). Over 90% of respondents held the rank of instructor or assistant professor and concentrated on teaching (88.9%), research (38.4%) and counseling (23.1%). They were highly qualified, with most holding either a doctorate (56.3%) or master's (38.6%). Almost 37% of those surveyed have conducted research on women's issues, and 16.3% had published in the area. Over 28% have done research on minority issues, and 10% had published their work. Of all respondents surveyed, 42.6% have been at their present institutions four or more years, but another 23.6% had held their present positions only one year. Most of the institutions were in the public sector (67%) and were either very large or relatively small.

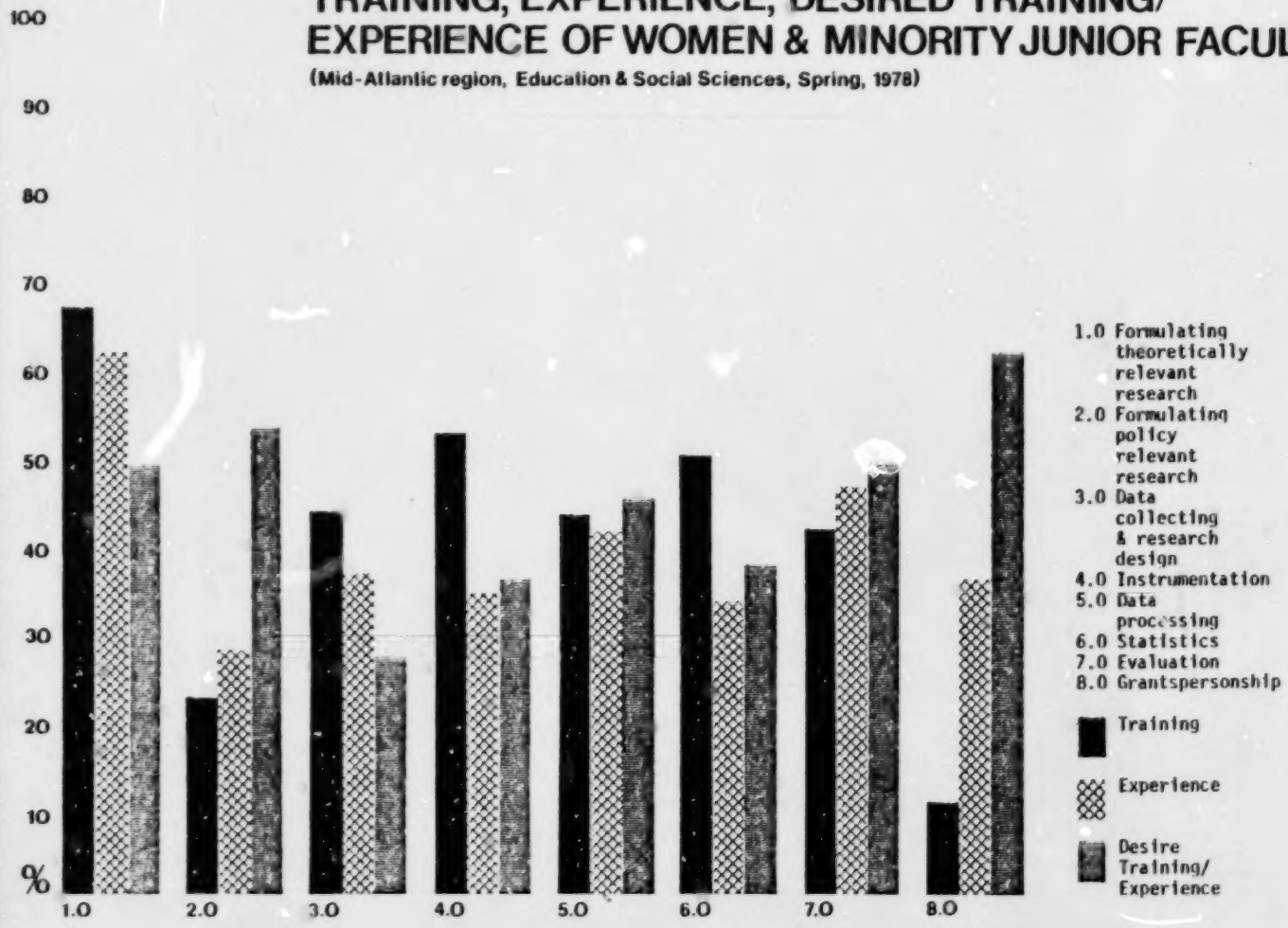
The overall picture of respondents' training, experience, and desired training and experience (T/E) are shown in Figure 1, from which a number of comments may be made.

In the area of 1.0-Formulating Theoretically Relevant Research, it is interesting that even though a great many respondents have had training (66.6%) and experience (61.4%), almost half of those surveyed still saw a need for training and experience.

FIGURE 1

TRAINING, EXPERIENCE, DESIRED TRAINING/ EXPERIENCE OF WOMEN & MINORITY JUNIOR FACULTY

(Mid-Atlantic region, Education & Social Sciences, Spring, 1978)



A more consistent relationship appears regarding 2.0-Formulating Policy Relevant Research. Here the second lowest degree of training (22.9%) and experience (27.9%) expressed in the survey was coupled with the second highest desire for such training and experience (53.1%).

For 3.0-Data Collection and Research Design and 4.0-Instrumentation, a considerable number of respondents indicated they have had training (43.7%, 52.4%). Though far fewer have had actual experience in applying what they have learned (36.7%, 34.8%), little interest was shown in pursuing either of these two areas (27.5%, 36.3%).

In the area of 5.0-Data Processing, respondents seem to split into two groups--those who have had training and experience (43.1%, 41.2%) and therefore see little need for more, and those who are unfamiliar with this field and would like assistance (45.4%). This interpretation is consistent with the fact that the demand for computer and statistical training figures prominently in respondents' own suggestions for the proposed program.

Regarding 6.0-Statistics, almost half of those surveyed reported at least some training. The fact that so few (33.5%) have had experience or desire it (37.7%) presents a seeming anomaly. It is possible that respondents have made little use of statistics and therefore see little need for further training in the area. This interpretation is somewhat contradicted by the many suggestions by respondents for just such training.

Another possible explanation is that those surveyed either may not have understood the statistical terminology used in the questionnaire, or they may be part of a large group of persons who are fearful or anxious about math-related training and experience.

The results for 7.0-Evaluation give the impression that many respondents (49.2%) would welcome formal training in an area where they have been compelled to perform (experience=46.8%), possibly without the necessary training.

8.0-Grantspersonship was the category in which the fewest respondents by far have had training (10.5%). While more have gained some experience (36%), the overwhelming majority (61.2%) obviously saw a great need for training and experience in this area.

Besides the conclusions drawn from the general summary of the data, the detailed results give rise to a number of additional comments. One noticeable pattern emerged with respect to the entire category of 3.0-Data Collection and Research Design (see Table 1). Every item in this group figures among those items ranked lowest in desire for training and experience. This is especially interesting since the corresponding percentages for actual training and experience are low or only moderate. One can speculate that perhaps respondents viewed this whole category as too geared to basic research (e.g., 3.6-Laboratory = 17.2%; 3.2-Observation = 26.2%; 3.5-Quasi-Experimental = 27.5%) and therefore too far removed from the management of research that respondents seemed to prefer. When it came to 2.0-Formulating Policy Relevant Research, those surveyed indicated a high degree of interest (53.1%), though few had had either actual training (22.9%) or experience (27.9%).

TABLE 1

Detailed Training, Experience, Desired T/E

	Training	Experience	Desired T/E
1.0-Form.Theor.Relev.Research	66.6%	61.4%	49.1%
2.0-Form.Pol.Relev.Research	22.9	27.9	53.1
3.0-Data Coll. & Res.Design	43.7	36.7	27.5
3.1-Survey	52.4	49.8	28.2
3.2-Observation	49.6	43.9	26.2
3.3-Interviewing	47.6	47.4	30.1
3.4-Experimental	44.1	30.8	27.9
3.5-Quasi-Experimental	37.8	25.3	27.5
3.6-Laboratory	30.3	18.8	17.2
3.7-Field	43.9	40.6	35.2
4.0-Instrumentation	52.4	34.8	36.3
4.1-Sampling and Design	61.8	46.5	43.9
4.2-Item Selection	44.5	31.0	31.2
4.3-Tests and Measures	53.9	35.2	36.5
4.4-Item Analysis	43.2	26.4	35.2
4.5-Validity and Reliability	58.5	34.9	36.2
5.0-Data Processing	43.1	41.2	45.4
5.1-Data Organiz. & Prepar.	48.0	47.2	45.6
5.2-Programming & Pkgd.Progs.	39.1	36.0	42.1
5.3-Computer Use & Applic.	42.4	40.4	48.5
6.0-Statistics	49.6	33.5	37.7
6.1-Infer. & Hypot.Testing	67.0	46.3	35.8
6.2-Measures of Relationship	60.7	41.9	27.9
6.3-Multivariate Analysis	41.3	27.5	45.0
6.4-Data Reduction Techniques	29.7	18.3	42.4
7.0-Evaluation	41.4	46.8	49.2
7.1-Design & Conduct Project	48.7	51.7	56.1
7.2-Reporting, Presenting	46.7	52.2	46.3
7.3-Dissemination	29.0	36.5	45.2
8.0-Grantspersonship	10.5	36.0	61.2
8.1-Reading RFPs/Grant Announc.	10.7	33.8	57.0
8.2-Proposal Writing	17.5	48.3	65.1
8.3-Proposal Budgeting	7.2	33.2	61.4
8.4-Project Direction	6.8	28.8	61.4

Again with regard to managing research, respondents showed a strong desire for training and experience in 7.1-Design and Conducting the Project (56.1%) and 8.4-Project Direction (61.4%).

Several items in Table 1, including 3.1-Survey, 4.1-Sampling and Design, 4.5-Validity and Reliability, 6.1-Inferential and Hypothesis Testing, and 6.2-Measures of Relationship, give the impression that the group of junior faculty members surveyed has considerable research training and some experience, at least in the simpler research techniques. None of these aspects of research evoked a great deal of desire for training or experience.

A certain desire to move to more complex research came through suggestively in the greater interest shown in the more advanced statistical techniques. While a great many respondents indicated training in the more basic statistical techniques of 6.1-Inferential and Hypothesis Testing (67%) and 6.2-Measures of Relationship (60.7%), considerably fewer mentioned training in either 6.3-Multivariate Analysis (41.3%) or 6.4-Data Reduction Techniques (29.7%). A corresponding pattern emerges across the Statistics category with regard to desired training/experience. With decreased training and experience, desire for such training and experience increased. The fact that the increased desire is less than proportionate to the lack of training and experience may be another indication of respondents' possible anxiety toward math and statistics generally.

The same pattern that emerged for the general category of 7.0-Evaluation also comes across in the individual items within the category. In each case, experience is greater than training, but the desire for training and experience remains relatively high. One can speculate again that respondents have been compelled to participate in research evaluation without having the background they feel they need.

When one considers its individual aspects, the category of 8.0-Grantspersonship again presents this survey question's most striking results. The items in this group show the four areas of least respondent training and most respondent interest in acquiring training and experience. The conclusion is obvious that each of these aspects of Grantspersonship should find a prominent place in any research internship designed for such groups of junior faculty.

In general one can say that within the categories of 1.0-Formulating Theoretically Relevant Research, 3.0-Data Collection and Research Design, 4.0-Instrumentation, 5.0-Data Processing, and 6.0-Statistics, more respondents have had training than have had actual experience. In these categories respondents appear to have a lower interest in additional training or experience. A number of factors may account for this. Older respondents who received their training some time ago and have not used certain elements of it may not see the need for additional training in these areas. The nature of respondents' institutions may also play a role. If they work at an institution where the accent is placed on teaching rather than research, respondents may have little desire for more training or experience along these lines.

Within the categories where experience exceeds training, on the other hand, the highest desire for training and experience was recorded. Respondents, therefore, may want to acquire formal training in those areas--2.0-Formulating Policy Relevant Research, 7.0-Evaluation, and 8.0-Grantspersonship--where many of them may presently be forced to perform "beyond their depth."

A large majority of the junior faculty respondents (72.3%) expressed a definite interest in participating in the proposed internship program, and 26% of those surveyed offered suggestions for their own program. They indicated a desire to develop contacts with government and funding agencies and with others in their field. They also expressed a concern for developing their communication skills (writing, dissemination, public presentations), and 13% reiterated their desire for training in statistics and computer usage.

Respondents offered strong evidence for intern placement near their home. Among other considerations in the decision to participate were adequate salary, relocation benefits, job placement assistance, obtaining leave and family obligations. Despite some of these constraints, 16.2% of the respondents indicated they had no reservations in participating, and 16.9% said subsidiary amenities were not important in their decision to participate in the internship program.

Chairperson/Caucus Surveys

The chairperson and caucus representative surveys contributed valuable information in identifying junior faculty, senior researchers, existing programs and generally publicizing the proposed program. Results largely parallel those of the Junior Faculty Survey, except for their greater emphasis on data collection and research design training.

Internship Identification Survey (IIS)

An Internship Identification mail and telephone Survey was undertaken to identify both programs that were specifically geared to women and minorities in educational research and programs that had generally been especially successful in their field. The overall aim was to discover what characteristics should be included and what particular difficulties avoided in designing the HERS Mid-Atlantic program model.

The questionnaire sought information on name, sponsor and objectives of the program, together with the criteria for selection, kinds of learning, experiences offered interns, and beneficial aspects for interns, mentors and placement institutions.

A follow-up telephone survey of 15 programs addressed concerns of funding, salaries and tax status of interns/fellows, procedures for matching mentors and interns, motivation of interns and mentors, evaluation procedures, and special areas of success or failure.

As might be expected, existing intern programs in educational research led the field (28.3%). Administration/management and science/medicine each represented the focus of about 1/4 of respondents, with the remaining fields of interest being legal, social policy, humanities and environmental science.

The majority of the organizations surveyed placed their interns within their own ranks (60.9%), but a sizable group place them elsewhere (28.2%). Most of these, however, continue to supervise the interns despite their external location (21.7%).

Most placement sites fell into four categories: higher education institutions (34.8%), government agencies, including school systems (32.6%), nonprofit organizations (23.9%), and research centers (19.6%).

Financing of internship programs is an important issue. In many instances sponsoring organizations had resources to pay for their programs (37.2%), but in the same frequency they had to rely on outside funding (37.2%). More than 1/5 resorted to a combination of internal and external resources for financing their work. Support took the form of stipend/salary (91.9%), supportive services (29.7%), and tuition payments and professional travel (16.2% each).

Primary objectives of the programs were to increase the expertise of the interns (76.1%) and their leadership potential (44.2%) and improve conditions for a special target population (39.1%). Special training and course work, group meetings and continuation of outside studies were experiences provided to help accomplish program goals. Programs were focused primarily at the junior career level or below, with fewer than 1/4 designed for those at the mid-career level.

Specific duties of interns included conducting their own independent research (48.8%), gaining practical experience in the program's field (e.g., administration) (32.6%), working on special projects with their mentors (30.2%) with expectations that something specific (in 81.3% of the situations) would be produced by the end of their internship tenure.

Time and again respondents stressed the vital importance of the mentor-intern link, yet little information was forthcoming when specifying what actually to look for in one's mentors. The match-up seems to be a somewhat symbiotic process of mutual choice with the following procedures appearing: 1) mentor chosen by intern from available pool of possible mentors (after selection) (46.2%), 2) intern chosen by mentor during selection process as suiting the research project (30.8%), 3) mentor chosen by intern directly prior to selection (prearranged by agreement) (15.4%), 4) mentor-intern matched by sponsor (15.4%).

Very few programs had built in any formal opportunity for interns to get together and share their thoughts and experiences with one another. Interns had either no or only limited contact with other interns. One of the survey's most significant findings is the general lack of emphasis on evaluation, both ongoing and review. Only about 57% of the programs cited formal or informal review of interns' progress.

In summary, a number of conclusions may be drawn from the JFQ and IIS surveys, most of which are incorporated in the proposed research training model for advancing women and minorities in educational research:

1. A well qualified, highly motivated group of junior faculty, in need of research training and access to senior networks, could serve as an initial pool of applicants.

2. Training areas requiring special emphasis are: Grantspersonship, Formulating Policy Relevant Research, Evaluation (conducting the project and dissemination), Formulating Theoretically Relevant Research, Computer Use, and advanced statistical techniques.

3. Since there is already considerable interest in women's and minority issues on the part of respondents, research undertaken during the internships should encourage continued research in these areas.

4. Intern placement close to home, an adequate salary and practicable help in maintaining continuity with regular jobs are all important considerations.

5. Interns should be given some direct input into the structuring of their own internship experiences. While an unlimited chance for policy making and management experiences is probably not possible, interns should receive some opportunities to design, conduct, direct and supervise research.

6. There are few mid-career internship programs for women and minorities in educational research. Such a program should concentrate on giving these persons the expertise and access to senior networks required for advancement.

7. An internship program must be sufficiently funded. Because of the higher expense in paying salaries (vs. stipends), a great deal of ingenuity and flexibility must be used in devising funding methods.

8. A variety of institutions interested in education, research and advancement of women may feasibly serve as desirable placement sites for an internship.

9. The intern working with a mentor on a special project for a minimum of one year and desirous of gaining skills and access to professional networks may be preferable to independent research.

10. Candidates should be required to submit a research proposal to gauge interns' ability and interest to aid in the all-important mentor-intern match. Besides mutual research interest, personalities, level of training and the need for role models should be taken into consideration.

11. Choice of mentors should be based upon qualifications, willingness to help interns and the ability to take personal satisfaction in seeing interns advance.

12. The program should include group and/or individual orientation, special lectures and conferences geared to interns' needs, and group meetings with interns, mentors and other appropriate professionals.

13. Formal procedures to evaluation (e.g., intern logs, group meetings, questionnaires) must be included in the program.

Internship Training Model

The model internship training program to help increase the number of qualified minorities and women in leadership positions in research and development is designed for those women and minority junior faculty who are committed to research and interested in changing career emphasis or increasing their career options.

Under the proposed model internship training program, junior faculty in education and the social sciences will work for one year with a senior researcher/mentor on an original or continuing research project. Interns will attend internal and external training seminars, work on at least one publication, and gain experience and assistance in writing and obtaining funding for independent research. When possible the placement institution will contribute 40-100% of the intern's salary. Additionally, most institutions will make a substantial in-kind contribution in terms of staff time, benefits, facilities, instruction, access to computers, and support services.

Various types of institutions, offering unique aspects and networks providing interns with multifaceted experiences, are recommended for placement sites. Examples of possible models are: 1) University (e.g., postdoctorate fellow, research associate on funded project, research assistant on survey research, institutional research and planning), 2) Research Institute (e.g., research assistant in institutes such as Educational Testing Service, ABT Associates, Rand Corporation, 3) Government (e.g., state education departments, federal agencies, 4) Others (e.g., professional organizations, home institution or one nearby, public school Research and Evaluation Division).

Recognizing the high cost of internship training, an adaptation of the training model is a strategy that may prove feasible to a number of audiences and thus have a larger impact on training and advancing women and minorities in educational research.

Three variations, incorporating key components of the proposed model, are possible. A mini-internship could offer placement with a mentor during the summer. Those junior faculty near a potential placement site might consider obtaining a partial leave for placement during the academic year. Other faculty at colleges providing pre-tenured sabbatics could take advantage of the program at a relatively low cost.

In any event, the importance and need for research skill training and professional networking have been established. At least three training seminars could be offered at potential placement sites, either on a long weekend during the academic year or in a one- to two-week institute during the summer.

Special features of the model include flexibility of components tailored to interns' needs, internal and external training, diversity and quality of placement sites, and the brokerage activities--advising and career assistance--that HERS Mid-Atlantic offers candidates.

Significance

For the first time, women and minority junior faculty in the Mid-Atlantic region are identified and their career profiles determined. From the results of this study, a data base for future research has been established. Junior faculty's research training needs and interests have been assessed and the desired components of research training program experience identified.

An important finding emerging from the review of the literature is the competitiveness of the field in which junior faculty hope to advance. One solution is to provide these persons with research expertise and extensive opportunity for senior and peer professional networking, as recommended by HERS Mid-Atlantic's model internship training program.

While the study was targeted to junior faculty in the Mid-Atlantic region, many of the results and the proposed model are adaptable to a variety of audiences. It is likely that the needs and interests of junior faculty in other areas of the country are somewhat similar to those in the Mid-Atlantic region. In those regions where a particular minority group is concentrated, of course, their special concerns and needs should be addressed.

The results of the complete study appear in a final report (Jackson & Pitterle 1978), which was disseminated to respondents of the IIS, senior researchers and their institutions, selected government agencies and foundations, state education department officials, and to individuals indicating an interest. An abstract of the final report was sent to all JFQ respondents and other individuals presently inquiring about the program.

Other administrators and researchers interested in advancing women and minorities, both inside and outside higher education, can profit from the findings of this study in designing future educational interventions. Additionally, the study suggests the merit of investigating the career paths of women and minorities in educational research.

REFERENCES

Bayer, A. & Astin, H. "Sex Differentials in the Academic Reward System." Science, 1975, 188(May), 796-802.

Blake, E.& Williams, M. Knowledge, Production and Utilization (KPU) Intervention Programs in Education and Other Professions: Summary, Conclusions and Recommendations. Washington, D.C.: Institute for Services to Education, Inc., 1977.

Ekstrom, R. "Concerns of Women in Educational Research and Development at Three Stages of Professional Development: Student Years, Early Postdoctoral Years, and Intermediate Professional Years," in Stivers, P. and Leckie, D. (eds.), NIE/AERA Planning Conference to Increase the Participation of Women and Minorities in Educational Research and Development. Washington, D.C.: NIE/AERA, 1977.

Hofstetter, A. Special Research Training Program for Public Schools. Washington, D.C.: HEW/OE, 1967.

Jackson, D.& Pitterle, K. Educational Research Internship for Women and Minority Junior Faculty: A Feasibility Study. Philadelphia: University of Pennsylvania. Higher Education Resource Services, Mid-Atlantic, 1978.

Kanter, R. & Wheatley, M. Career Development for Women in Academic Administration: the Role of Training. Cambridge, Mass.: Goodmeasure, 1978.

Kilson, M. "The Status of Women in Higher Education." Signs: Journal of Women in Culture and Society, 1976, 1(4), 935-942.

Kreps, J. "The Woman Professional in Higher Education," in American Council on Education, Women in Higher Education; Background Papers for Participants in the 1972 Annual Meeting. Washington, D.C.: ACE, 1976.

Lipman-Blumen, J.; Stivers, P.; Tickmayer, A.; Brainard, S. "Participation of Women in the Educational Research Community." Educational Researcher, 1976, 4(9), 5-14.

McAdoo, H. & McAdoo, J. Urban Educational Researchers Training Institute. Washington, D.C.: HEW/OE, 1974.

National Center for Education Statistics. Digest of Education Statistics, 1977-78. Washington, D.C.: U.S. Government Printing Office, 1978.

Niedermeyer, G. & Kramer, V. Women in Education Administrative Positions in Public Education: a Position Paper. Philadelphia: Recruitment Leadership and Training Institute, 1974.

Norton, D. Experimental Design for Local School Districts. Washington, D.C.: HEW/OE, 1966.

Schlossberg, N. "The Right to be Wrong is Gone: Women in Academe." Educational Record, 1974, 55(4), 257-262.

Southwest Educational Development Laboratory. A Design of New Patterns to Train Research, Development, Demonstration/Dissemination, and Evaluation Personnel in Education. Washington, D.C.: HEW/OE, 1970.

Stecklein, J. Pilot Training Program with a Postdoctoral Internship in Institutional Research. Washington, D.C.: HEW/OE, 1967.

Stivers, P. & Leckie, D. (eds.). NIE/AERA Planning Conference to Increase the Participation of Women and Minorities in Educational Research and Development. Washington, D.C.: NIE/AERA, 1977.

Tidball, M. "Equality and Success," in Vermilye, D. (ed.), Current Issues in Higher Education 1976: Individualizing the System. San Francisco: Jossey Bass, 1976.

Vetter, B. & Babco, E. Professional Women and Minorities. Washington, D.C.: Scientific Manpower Commission, 1976.